All claims pending, including those unchanged by the present amendment, are reproduced below for the convenience of the Examiner. Please add new claims 55-60.

1. (Previously Amended) A method for separating an intact NP probe from a phosphate detectable moiety, said method comprising:

a) providing a sample comprising an intact NP probe with a detectable moiety attached thereto, whereupon an enzymatic cleavage of said intact NP probe to incorporate said NP probe on a primer strand hybridized to a target nucleic acid, a phosphate detectable moiety is produced, wherein said phosphate detectable moiety carries a molecular charge which is different than the molecular charge of said intact NP probe; and

b) applying an energy field to said sample, thereby separating said phosphate detectable moiety from said intact NP probe.

2. (Original) The method according to claim **1**, wherein said intact NP probe is a charge-switch nucleotide phosphate probe having a detectable moiety on a terminal phosphate.

3. (Original) The method according to claim **2**, wherein said charge-switch nucleotide phosphate is a nucleotide triphosphate (NTP) having a γ-phosphate with a detectable moiety attached thereto.

4. (Original) The method according to claim **3**, wherein said γ-phosphate with a detectable moiety attached thereto is a γ-phosphate with a fluorophore attached thereto.

5. (Original) The method according to claim**1**, wherein said intact NP probe is incorporated on a primer strand hybridized to a target nucleic acid using a polymerase, thereby releasing said phosphate detectable moiety.

6. (Previously Amended) The method according to claim **5**, wherein said polymerase is immobilized.

7. (Original) The method according to claim **1**, wherein said energy field is an electric field.

8. (Original) The method according to claim **7**, wherein said electric field is a first electric field applied in a transverse direction and a second energy field is applied in an axial direction.

9. (Original) The method according to claim **8**, wherein said second energy field applied in said axial direction is a pressure field.

10. (Original) The method according to claim **1**, wherein the charge of said phosphate detectable moiety is greater than said intact NP probe.

11. (Original) The method according to claim **1**, wherein the charge of said phosphate detectable moiety is less than said intact NP probe.

12. (Original) The method according to claim **1**, wherein the charge of said phosphate detectable moiety is opposite in sign compared to said intact NP probe.

13. (Original) The method according to claim **1**, further comprising c) detecting said phosphate detectable moiety.

14. (Original) The method according to claim **13**, wherein said detection is via a charge coupled device (CCD) camera.

15. Previously Canceled.

16. (Original) The method according to claim **13**, wherein said detection is via a photodiode.

17. (Original) The method according to claim **13**, wherein said detection is via a blockade current.

18. (Previously Amended) A method for identifying an intact charge-switch nucleotide phosphate (NP) probe, said method comprising:

a) contacting a sample comprising said intact charge-switch NP probe having a charged moiety on the base, with an enzyme to produce a phosphate detectable moiety; and

b) applying an electric field to said sample, wherein said phosphate detectable moiety migrates to an electrode differently than said intact charge-switch NP probe.

19. (Original) The method according to claim **18**, wherein said electrode is an anode.

20. (Original) The method according to claim **18**, wherein said electrode is a cathode.

21. (Original) The method according to claim **18**, wherein either said intact NP probe has a positive molecular charge, or wherein upon cleavage of said phosphate detectable moiety, said phosphate detectable moiety carries a positive charge relative to said intact NP probe.

22. (Original) The method according to claim **18**, wherein said enzyme is selected from the group consisting of a DNA polymerase, a DNA dependent RNA polymerase, a reverse transcriptase, a phosphodiesterase and a phosphatase.

23. (Original) The method according to claim **18**, wherein said intact charge-switch NP probe is a member selected from the group consisting of a nucleotide diphosphate, a deoxynucleotide triphosphate (dNTP), and a nucleotide triphosphate (NTP).

24. (Original) The method according to claim **23**, wherein said deoxynucleotide triphosphate (dNTP) is a member selected from the group consisting of deoxyadenosine triphosphate, deoxycytosine triphosphate, deoxyguanosine triphosphate deoxythymidine triphosphate and deoxyuridine triphosphate.

25. (Original) The method according to claim **18**, wherein said phosphate detectable moiety is a pyrophosphate with a fluorophore moiety attached thereto.

26. (Original) The method according to claim **25**, wherein upon cleavage of said pyrophosphate fluorophore moiety, said pyrophosphate fluorophore moiety carries a positive charge relative to said intact NTP probe.

27. (Original) The method according to claim **18**, wherein said intact NP probe has a positive charge.

28. (Original) The method according to claim **18**, wherein said intact NP probe has a negative charge.

55. (New) A method for sequencing a nucleic acid, said method comprising:

providing a target nucleic acid, a polymerase priming moiety, a polymerase, and a plurality of intact NP probes;

mixing said target nucleic acid, said polymerase priming moiety, said polymerase and said plurality of NP probes under conditions permitting target dependent polymerization of said plurality of NP probes, such conditions which are capable of providing a time sequence of a plurality of phosphate detectable moieties; and

detecting over time said plurality of phosphate detectable moieties to provide a sequence of said target nucleic acid.

56. (New) The method according to claim **55**, wherein said primer moiety is a hairpin loop.

57. (New) The method according to claim **55**, wherein said plurality of phosphate detectable moieties independently selected from the group consisting of PPi-Dye, a terminal phosphate fluorophore moiety, a detectable moiety, charged groups, electrically active groups, reporter groups, and combinations thereof.

58. (New) The method according to claim **55**, wherein said phosphate fluorophore moiety is a used for a member selected from the group consisting of one-color sequencing, two-color sequencing, three-color sequencing, four-color sequencing and combinations thereof.

59. (New) The method according to claim **55**, wherein said polymerase is immobilized in single molecule configuration.

Cl 1 cont.

60. (New) The method according to claim **55**, wherein said plurality of phosphate detectable moieties are separated from said plurality of intact NP probes.